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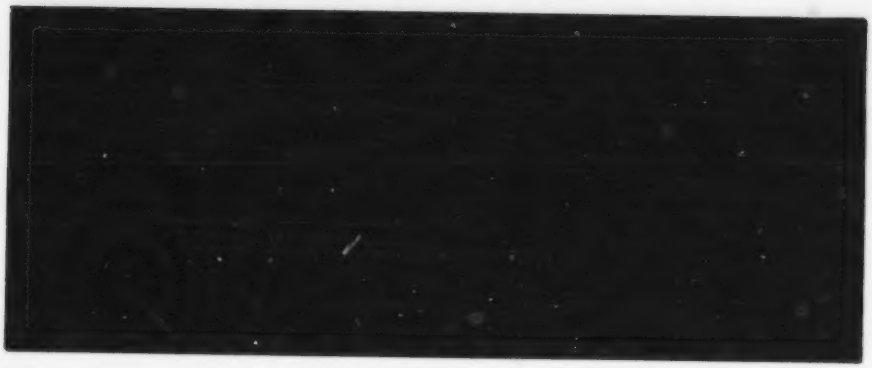

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Rural Municipality of Hud
Herd health, productivity
and reproductive
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Final Report

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Herd Health, Productivity and Reproductive Performance in Northeastern Saskatchewan

Conducted by
Rural Municipality of Hudson Bay 394

Funded by the Agriculture Development Fund

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PROJECT TITLE:

Herd health, Productivity and Reproductive Performance in Northeastern Saskatchewan

PROJECT OBJECTIVES:

The main objective of this program is to provide a multifaceted herd health and herd management program to the Beef Producers in the Rural Municipality of Hudson Bay. The program will aim at increasing the total productivity of beef herds in the municipality by targeting three areas of beef management and by trying to enhance performance in each of these three areas.

a) herd health management.

Death losses at calving and postcalving will be reduced to 5% of the total calves born. Total sickness and death rates in older cattle will be reduced to 10% and 1% respectively.

b) reproductive performance program

Fall pregnancy rates shall be increased from 80% to 95% of all cows exposed to breeding

c) herd productivity program

Average weaning weights shall be increased by 100 pounds per calf at 200 days of age.

REPORT FORMAT

The report shall be organized into 2 general sections. The first portion will consist of a description of the program as it was administered to those beef producers who were enrolled in the program. The second portion will be a detailed record of all expenditures.

BACKGROUND

The rural municipality of Hudson Bay is the largest municipality in the province of Saskatchewan. Most of the municipality is covered by mixed and coniferous forest. There is an area approximately 20 miles by 30 miles of poorly drained farm land in the centre. The major industry is forestry followed by farming and tourism including hunting and fishing. Agriculture consists mostly of mixed farming. A significant portion of the farmers receive off farm income from the forestry industry. The beef industry is almost entirely traditional cow calf as seen in most of Saskatchewan. Calving season begins in February and March then

drags on until seeding begins in May. Calves are either sold directly off the cow in October and November or backgrounded and sold as feeders or grassers in the spring. A small portion of the calves are held over and sold as slaughter cattle. Breeding begins when brood cows with calves at foot are turned out to graze in late May or early June. Breeding is almost exclusively natural, with little or no A.I. breeding or embryo transfer being performed. The pasture is predominantly tame. Alfalfa, yellow and red clover as well as various tame and wild grasses are the main varieties used for both pasture and forage production. The major diseases seen are those which would be seen anywhere in Western Canada. These include respiratory disease, calf scours, clostridial diseases, IBR, BVD, as well as nutritional problems such as grain overload, bloat, and copper and selenium deficiencies.

ACTION PLAN

The program will attempt to provide a comprehensive herd health and herd management program to the beef producers within the municipality. The program will attempt to reach the goals outlined above by providing for the following services:

a) Herd health management program

i) The program will provide for all aspects of emergency veterinary care including physical examinations and all veterinary treatments as well as surgical procedures that may be administered to beef cattle to provide for their immediate veterinary care. Drug costs will not be provided for.

ii) Post mortem and herd examinations will be provided for.

iii) The producers will be encouraged to use a veterinarian to develop individualized preventative medicine programs for their herds.

iv) Herd management procedures such as vaccinating, castrating, dehorning and implanting of cattle will be included. Drug and vaccine costs will not be provided for.

b) Reproductive performance program

Reproductive efficiency in beef herds will be enhanced by

providing for the following services:

i) pregnancy diagnosis

ii) semen testing of bulls

iii) hoof trimming of bulls

iv) synchronizing of breeding females

v) feed analysis and ration balancing

c) Herd productivity program

The program will encourage producers to monitor herd productivity and to increase total herd production by providing for the following:

i) a livestock scale to be used by producers to weigh their calves.

ii) R.O.P. type data recording, analysis and interpretation.

iii) feed testing and ration balancing.

iv) Artificial insemination. Not including the cost of semen

All beef producers in the municipality will be allowed free access to the program by signing a contractual agreement with the Veterinary board of the Rural Municipality of Hudson Bay. Enrolling in the program will not be considered mandatory for beef producers residing in the municipality. Once enrolled a beef producer may use any, all or none of the services which are provided. Beef producers will be under no obligation other than to ensure that they are enrolled in the program and have paid the fees as required by the Veterinary Board. Exclusion from participation in the program may be necessitated by producers providing false information to the Veterinary Board or abusing the services provided. The Veterinary board will remain the administrator of the program and will be the liaison between the beef producers and the Veterinarian who is providing the veterinary care for the producers enrolled in the program. The program will be structured in the following manner:

i) Producer commitment

Each producer that enrolls in the program will be required to pay a membership fee to join the program. The producer will be charged a levy based on the number of cattle that he owns. Producers must enroll all of their livestock in the program if they wish to become members

ii) Veterinary board commitment

The veterinary board will be the administrator of the program. The board will collect the enrollment fees and levis from the producers as well as all grants that are submitted by the Rural Municipality of Hudson Bay and E.R.D.A. The board will use the funds collected to purchase a cattle tipping table, a scale, and a bull ejaculator as well as to pay invoices received for veterinary services and feed testing. The board will negotiate the fees that will be paid to a veterinarian for any services that are performed. The board will decide which services will be paid for by the program. The board will receive invoices for services that are performed and pay the veterinarian according to the fee schedule that they have established. Each invoice that is submitted will be scrutinized by the members of the board to ensure that the services performed are covered by the program and that the producer for whom the service is performed is a member in good standing. The Veterinary Board will report the progress of the program to the Municipal Council of the Rural Municipality of Hudson Bay, to the E.R.D.A. coordinator and to the enrolled members of the program.

iii) Commitment of the Veterinarian

The Veterinarian in Hudson Bay will provide most of the veterinary services to the members of the program. He will agree to provide invoices to the Veterinary Board as documentation of services that have been performed. The Veterinarian will only provide invoices for services that are covered by the program. The fees that are charged will be the same as those which the Veterinary Board has agreed to pay for each service.

iv) Commitment of E.R.D.A.

E.R.D.A will provide funding to allow for the purchase of a cattle tipping table, a scale, and a bull ejaculator. E.R.D.A. will provide funding to reduce the initial cost of

the program to the beef producers in the municipality. Payments to be made as follows:

1. $10,000 on signing the agreement.

2. $10,000 payable March 31, 1986.

3. Payments of $10,875 will be made Sept. 30, 1986 and every 6 months thereafter ending March 31, 1988.

4. All payments are contingent upon the receipt of progress reports.

5. An acceptable final report is due prior to the release of the final payment on March 31, 1988.

v) Commitment of the Rural Municipality of Hudson Bay.

The Rural Municipality of Hudson Bay shall provide funding in the form of a yearly grant paid to the Veterinary board to assist the board in the payment of mileage fees charged by the Veterinarian.

PRODUCER PARTICIPATION

In general the concept of the program was very well accepted by producers in the municipality. Attendance at organizational meetings was high and producer comments were very positive. Producer enrollment in the program was quit high, varying from 64 producers in 1986 to 58 producers in 1988. this represents 84 to 85% of the total beef cattle in the municipality. The drop in the total number of participants from 1986 to 1988 should not be considered to be an indication of reduced acceptance of the program by producers in the municipality. The reduction should be considered to be an indication of the affect that localized economic conditions has had on the farming community. These people have either left the community or they have discontinued their Beef production operations. The high level of acceptance by beef producers reflects the economic advantage that the program provided to those who were enrolled. As will be demonstrated later in this report the main appeal to producers was for the emergency veterinary medical and herd maintenance services that the program provided, rather than for services that were aimed at increasing productivity such as weighing calves. This trend continued throughout the lifetime of the program. Producers tended to select services from the program for convenience rather than for economic benefit.

The total number of brood cows enrolled in the program changed only by 2.1% from 2358 brood cows in 1986 to 2307 brood

cows in 1988. The average herd size has steadily increased from 36.8 cows per producer in 1986 to 39.8 cows per producer in 1988.

The trend therefore has been towards a slight increase in herd size accompanied by a slight decrease in the number of producers. The number of yearlings enrolled in the program showed the greatest change over the term of the program. The total number of yearlings changed by 27% from 947 in 1986 to 689 in 1988. The percentage of yearlings to cows changed from 40% in 1986 down to 30% in 1988. It is estimated that approximately 60% of these yearlings are heifers that are being held over to be kept as replacements. This trend towards a reduction in the total number of yearlings enrolled in the program indicates that there are very few yearling steers being kept in farm feedlots in the municipality. The change over the duration of the program also indicates a preference of participants to become almost entirely cow/calf producers, selling their calves in the fall or early spring rather than feeding them and selling them as finished cattle.

The total number of bulls enrolled in the program went up slightly from 69 bulls enrolled in 1986 to 78 bulls enrolled in 1988. This is reflected by a slight change in the bull to cow ratio from 1 bull to 34 cows in 1986 down to 1 bull to 30 cows in 1988.

TABLE 1. Basic Herd Profile

	-1986-	-1987-	-1988-
# PRODUCERS	64	58	58
# BROOD COWS	2358	2199	2307
AVE. HERD SIZE	36.8	37.9	39.8
# YEARLINGS	947	787	689
% YEARLINGS/COWS	40%	36%	30%
# BULLS	69	74	78
BULL/COW RATIO	1:34	1:30	1:30
# COWS IN R.M.	2780	2630	2690
% OF COWS ENROLLED	85%	84%	85%
TOTAL ENROLLED	3374	3060	3074

PROJECT PERFORMANCE AND DATA COLLECTION

a) Herd health management program.

The herd health management section of the program provided those services that were most widely accepted by the producers enrolled in the program. The services included all forms of emergency veterinary services as well as post mortem and herd management services such as castrating, dehorning and vaccinating.

i) emergency veterinary care

The program attempted to provide for all of the emergency veterinary care that producers would require. This included all physical examinations performed to diagnose illness and all treatment and surgical procedures that were performed to treat diseases. For simplicity the number of procedures performed has been divided into 2 groups the first includes all dystocias and the second includes all other emergency surgical and treatment procedures. Between 3.9 and 5.5% of all brood cows enrolled had calving problems that were severe enough to require veterinary intervention. Between 9.4 and 11.2% of all cattle enrolled required some sort of veterinary care during the course of the program. The average cost of a dystocia ranged from $67.75 to $81.80 and the average cost of an emergency treatment ranged from $54.20 to $55.86. The total cost to the program for emergency veterinary care varied from $5.23 to $6.22 per head enrolled. The cost of most of the services to the program remained fairly constant. There was some variation in the cost of dystocias. The cost of dystocias went down from $80.50 in 1986 to 67.75 in 1988. The reason for this reduction is not known. Most of the other services went up slightly over the course of the program in response to slight increases in the fees that the veterinarian was allowed to charge for each service performed. This is reflected in the change in cost per brood cow and cost per head enrolled. The cost per brood cow enrolled in the program went up 6.4% from $7.50/cow in 1986 to $8.28/cow in 1988. The cost per head enrolled increased by 18.1% from $5,27/head in 1986 to $6.22/head in 1988

Over the 3 year term of the program 331 dystocias were performed for a total cost of $25,165 and a total of 958 emergencies were performed for a total cost of $52,910. The

emergency services portion of the program was the most heavily used and consequently consumed a major portion of the programs budget. This suggests that emergency services were probably one of the major reasons for producers enrolling in the program.

TABLE 2. Emergency Services

	-1986-	-1987-	-1988-
# DYSTOCIAS	119	85	127
# EMERGENCIES	209	203	225
TOTAL	328	288	342
% OF COWS WITH DYSTOCIA	5.1	3.9	5.5
% OF TOTAL WITH EMERGENCY	9.7	9.4	11.2
COST OF DYSTOCIAS	$9580	$6980	$8605
COST OF EMERGENCIES	$8198	$9048	$10502
TOTAL COST	$17778	$16028	$19104
COST/DYSTOCIA	$80.50	$81.80	$67.75
COST/EMERGENCY	$54.20	$55.65	$55.86
TOTAL COST/BROOD COW	$7.50	$7.28	$8.28
TOTAL COST/HEAD	$5.27	$5.23	$6.22

ii) Postmortem Examinations

The value of postmortem examinations as a tool for diagnosing outbreaks of disease and for monitoring the rate and etiology of diseases in beef herds is significant. Postmortem examinations were not used extensively by the producers enrolled in the program. Although the number of postmortem examinations performed increased steadily throughout the duration of the program there use by producers remained minimal. The number of postmortem examinations performed increased from 8 in 1986 to 17 in

1988. The cost per postmortem performed remained virtually constant over the duration of the program. The cost per head enrolled increased from $.10 in 1986 to $.24 in 1988. this is a reflection of the increase in the number of postmortem examinations performed. The increase in use of postmortem examinations by producers probably does not suggest an increase in mortalities but rather is probably a reflection of a slight increase in producer awareness of the value of the procedure. Thus we are seeing a slightly higher increase in the proportion of mortalities that were examined by a veterinarian as the program progressed.

TABLE 3. Postmortem Examinations

	-1986-	-1987-	-1988-
# P.M. PERFORMED	8	12	17
TOTAL COST	$350	$510	$740
COST/P.M.	$43.75	$42.50	$43.50
COST/BROOD COW	$.15	$.23	$.32
COST/HEAD	$.10	$.17	$.24

iii) Herd Management Procedures

The use of herd maintenance procedures such as castrating, dehorning and vaccinating was very well accepted by producers. In the initial stages of the program producers used these services ubiquitously. Initially 86% of all male calves were castrated, 39% of all calves were dehorned and 58% of all animals were vaccinated for a total of 3905 procedures. This is probably a reflection of an initial attitude of the producers in which they wanted to maximize their return from the program. The number of calves dehorned and the number of calves castrated was greatly reduced over the term of the program in spite of the availability of the services to producers. Castrations went down by 67% from 1007 in 1986 to 332 in 1988. The number of calves dehorned went down by 88% from 930 in 1986 to 109 in 1988. These reductions are probably due to the producers using alternate methods such as dehorning pastes and elastrators as well as producers returning to their original situation in which

they did the procedures on their own.

The total number of animals vaccinated changed only slightly over the course of the program. Producers were encouraged to use a veterinarian to design individualized disease management programs. These programs included vaccination schedules in which the veterinarian often supplied the vaccine and in many cases administered it.

The total number of herd maintenance procedures performed was reduced by 40% from 3905 in 1986 to 2337 in 1988. The total cost for these procedures went up by 8% from $5771 in 1986 to $6242 in 1988. This is a result of an increase in the cost of each procedure from $1.48/procedure in 1986 to $2.67/procedure in 1988. The cost per head even at its highest of $2.03/head remained low compared to the cost of emergency services at $6.22/head.

TABLE 4. Herd Management Procedures

	-1986-	-1987-	-1988-
# CASTRATIONS	1007	561	332
% MALES CASTRATED	86	51	29
# CALVES DEHORNED	930	479	109
% CALVES DEHORNED	39	22	5
# CATTLE VACCINATED	1968	1349	1896
% CATTLE VACCINATED	58	44	62
TOTAL PROCEDURES	3905	2389	2337
TOTAL COST	$5771	$5037	$6242
COST/PROCEDURE	$1.48	$2.11	$2.67
COST/BROOD COW	$2.45	$2.29	$2.71
COST/HEAD	$1.71	$1.64	$2.03

iv) Mortalities

During the course of the program an attempt was made to keep an account of the mortalities that occurred to

producers enrolled in the program. The record was derived from veterinary records as well as records kept by producers. This record cannot be considered to be complete. Veterinarians are not associated with all mortalities so there records are incomplete and farmers tend not to keep track of losses as accurately as they keep track of live, producing animals since the live ones are observable and of value to them. This conjecture is supported by the observation that the mortalities in each class are lower than would be considered typical of similar classes of cattle found under similar conditions in Western Canada.

Recorded mortality rates varied only slightly during the 3 year duration of the program. Abortion rates remained around 1%. Calf deaths at birth hovered around 4.5%. Calf deaths varied slightly from 3.85% to 4.96%. Total calf mortalities varied slightly from 6.75% to 7.32%. Adult mortalities remained low, varying from 1.64% to 2.77%. The lack of variability as well as the low rates of mortality suggests that the program probably did not have a significant affect on mortality rates and that reporting of mortality rates was probably inadequate.

TABLE 5. Mortalities

	-1986-	-1987-	-1988-
# ABORTIONS	22	19	24
% ABORTIONS/BIRTHS	.90	.86	1.04
MORTALITIES AT BIRTH	105	96	108
% DEATHS/BIRTHS	4.45	4.36	4.68
CALF MORTALITIES	101	109	89
% DEATHS/BIRTHS	4.28	4.96	3.85
TOTAL CALF MORTALITIES	228	224	221
% DEATHS/BIRTHS	6.75	7.32	7.19
ADULT MORTALITIES	50	36	64
% ADULT MORTALITIES/ADULTS	2.12	1.64	2.77

b) Reproductive performance program

The economic return to the producer for reproduction, productivity, and carcass quality follows a 10:2:1 ratio. Thus it would follow that any producer support group that had a goal of increasing the net return to beef producers should concentrate their efforts on increasing the total reproductive performance of the beef producing herd. This program attempted to make some of the procedures required to increase reproductive performance available to those producers who were enrolled in the program. The use of bull test stations and the increased popularity of fast growing so called exotic breeds of cattle in the last 20 years has tended to channel producers thinking towards the idea that productivity and rates of gain are the most important factors that govern profitability on beef operations i.e. bigger is better. Procedures such as pregnancy diagnosis and semen testing of bulls have not gained the popularity that their economic return merit. Reproductive performance in a beef herd can be affected by many factors such as performance of breeding bulls, nutrition, abortion rates etc. Mortalities also affect reproductive performance since increased mortalities of necessity will reduce the number of offspring that are reproduced by the herd. This program as demonstrated earlier failed to decreased measured mortalities in any class of cattle enrolled in the program over it's 3 year term.

i) Pregnancy Diagnosis

Pregnancy diagnosis is one of the most economical, most easily performed and therefore most easily accessible procedures available to beef producers for increasing reproductive performance. Pregnancy diagnosis can be used to monitor breeding performance. It can also be used in conjunction with culling as a method to shorten the spring calving period. Pregnancy diagnosis used as a basis for fall culling can over a period of time result in selection pressure being put on the herd in favour of high reproductive performance. Pregnancy diagnosis was fairly well accepted by producers enrolled in the program. Producer participation increased by 7% from 64% of all eligible cows being preg. diagnosed in 1986 to 70% of all eligible cows being preg diagnosed by 1988. The total number of cows diagnosed either open or late did not change significantly over the term of the program. The cost of pregnancy diagnosis increased from $1.65 in 1986 to $2.34 in 1988. The cost per cow enrolled in the program remained low at $1.63 per cow enrolled in 1988.

TABLE 6. Pregnancy Diagnosis

	-1986-	-1987-	-1988-
# PREG. DIAGNOSIS	1502	1463	1610
% PREG. Dx of TOTAL	64	67	70
# COWS OPEN	155	84	121
% COWS OPEN	10.3	5.7	7.5
# COWS BRED LATE	54	69	78
% COWS BRED LATE	3.6	4.7	4.8
# OPEN + LATE	209	153	199
% OPEN + LATE	13.9	10.5	12.4
TOTAL COST	$2477	$4091	$3760
COST/PREG. Dx.	$1.65	$2.80	$2.34
COST/COW ENROLLED	$1.05	$1.86	$1.63

ii) Semen Testing

Semen testing of breeding bulls was not a well accepted procedure by producers in this program. The total number of bulls semen tested remained only a small portion of all the bulls enrolled in the program. The number of bulls semen tested ranged from 10% of all bulls enrolled in 1988 to 20% of all bulls enrolled in 1987. The cost to the program for semen testing therefore remained low at between $.11 to $.33 per brood cow enrolled in the program.

TABLE 7. Semen Tests

	-1986-	-1987-	-1988-
# SEMEN TESTS	8	15	8
% OF BULLS TESTED	12%	20%	10%
TOTAL COST	$465	$710	$246
COST/TEST	$38.75	$47.33	$30.75
COST/BROOD COW	$.20	$.33	$.11

ii) Hoof Trimming Bulls

Capital cost for the purchase of bulls coupled with the short lifespan that most bulls have in beef herds makes the cost of breeding females considerable. Feet and hoof problems are among the most common causes of the loss of function of breeding bulls. Feet trimming and adequate foot care should significantly increase the longevity of breeding bulls. Hoof trimming of breeding bulls was fairly well accepted by beef producers. The number of bulls trimmed varied from 11% of those enrolled to 26% of all bulls enrolled. It is not expected that all bulls should be trimmed each year, since young bulls in the first few years of breeding would require minimal or no foot care. Since foot trimming was done exclusively on the farm the time involved in performing the procedure and thus cost of each procedure varied with the variation in facilities available on each operation. The average cost for foot trimming varied from $32.37 per procedure in 1987 to $40.36 per procedure in 1986. The overall cost of foot trimming to the program remained low varying from $.14 in 1988 to $.28 in 1987.

TABLE 8. Hoof Trimming Breeding Bulls

	-1986-	-1987-	-1988-
# BULLS HOOFTRIMMED	14	19	8
% OF TOTAL BULLS TRIMMED	20%	26%	%11
TOTAL COST	$565	$615	$320
COST/TRIMMING	$40.36	$32.37	$40.00
COST/BROOD COW	$.24	$.28	$.14

iv) Synchronizing of Breeding Females

Maintaining a short calving season is critical to maintaining a uniform calf crop. A uniform calf crop means the producer has a more marketable product that will tend to bring in a higher return. In a commercial beef herd synchronizing large proportions of the breeding females so that they come into estrus in a few days early in the breeding season can significantly shorten the breeding

season and consequently result in a shortened calving period. Beef production in a mixed farming environment means that resources and time must be shared among a number of enterprises. Breeding season in general tends to coincide with seeding in Northeastern Saskatchewan. During seeding time producers are forced to concentrate their efforts away from the beef herd. This is probably the main reason why synchronizing of brood cows was not well accepted by producers enrolled in the program. In 1986 a total of 65 breeding females were synchronized. This dropped to zero by the end of the program in 1988.

TABLE 9. Synchronizing Breeding Females

	-1986-	-1987-	-1988-
#COWS SYNCHRONIZED	65	9	0
TOTAL COST	$425	$65	0
COST/BROOD FEMALE	$.19	$.03	0

v) Feed Analysis and Ration Balancing

Adequate nutrition is essential to maintain good reproductive performance in beef cattle. Brood cows that are not on an adequate plain of nutrition will not cycle early enough after calving to be bred in time to fit it into a strict culling program based on pregnancy diagnosis in the fall. Feed testing and ration balancing was provided to the producers participating in the program at a subsidized rate. Acceptance and use of the procedure varied from 64% of all producers in 1986 to a low of 11% of all producers in 1986. producer acceptance seemed to be somewhat dependant on the program providing a technician to do the actual feed sampling. The cost of feed testing to the program ranged from $.24 per brood cow to $.30 per brood cow.

TABLE 10. Feed Testing and Ration Balancing

	-1986-	-1987-	-1988-
# FEED TESTS	7	37	19
% OF PRODUCERS FEED TESTING	11%	64%	33%
TOTAL COST	$566	$1484	$700
COST/BROOD COW	$.24	$.68	$.30

c) Herd Productivity Program

i) Weighing of calves

A livestock scale was purchased by the Veterinary Board and made available at no cost to the producers enrolled in the program. Producers were encouraged to use the scale to weigh calves as a method of measuring total herd productivity. Data processing was made available to producers at no charge to encourage them to use calf weights as a method of determining individual dam productivity which could then be used as an aid in selecting more productive individuals for the breeding herd. Weighing of calves requires cattle handling facilities such as a holding pens and a chute which are not available on all beef operations. There was considerable resistance among producers in the program to adopt the use of calf weighing as part of their individual beef management programs. The resistance was probably due at least in part to lack of facilities. During the course of the program there were only between 19% and 23% of all calves weighed. Weaning weights varied from 535 lbs. to 599 lbs. The sample however is so small that the data cannot be used as an indicator of calf weaning weight trends within the rest of the population enrolled in the program. The data that was recorded will have been from some of the better managers enrolled in the program. This would suggest that the weaning weights we observed are probably higher than those for the rest of the producers enrolled in the program.

TABLE 11. Calves Weighed

	-1986-	-1987-	-1988-
# CALVES WEIGHED	442	609	437
ADJ. WEAN. WT. lbs.	535	599	535
% TOTAL CALVES WEIGHED	23%	28%	19%
TOTAL COST	$630	$160	$307
COST/BROOD COW	$.27	$.07	$.13

ii) Data Recording and Analysis

Collection and processing of reproductive, productive and epidemiological data was made available to producers in the program a no cost. Data collection and analysis was

managed by a veterinarian and was done by computer analysis. There was not direct cost to the program for this service. This service was used very sparsely by producers enrolled in the program. In 1986 8% of all producers used the service. This increased to 19% by 1988.

TABLE 12. DATA RECORDING

	-1986-	-1987-	-1988-
# PRODUCERS	6	9	11
% OF PRODUCERS	9%	16%	19%
COST/BROOD COW	0	0	0

iii) Artificial Insemination

Artificial insemination is an economical procedure that can be used to introduce high producing sires into a beef herd. Thus total herd productivity can be increased over a short period of time without the expense of purchasing an expensive herd sire. This program provided A.I. breeding to the producers enrolled in the program at no cost. The service was sparsely used, with only 2% of all of the brood cows being bred. A.I.

TABLE 13. Artificial Insemination

	-1987-	-1987-	-1988-
# COWS BRED A.I.	47	48	45
% OF COWS BRED A.I.	2%	2%	2%
TOTAL COST	$665	$815	$1509
COST/BROOD COW	$.28	$.37	$.66

d) Total Cost of the Program

During the lifetime of this project detailed records of all costs were kept in order to allow for the evolution of historical data that might be used to maintain the operation of this program over an extended period of time or for the development of new programs. Some of the data collected will be of little value in situations other than the one in which the program was run because of the unique conditions is this area of Northeastern Saskatchewan. Some of the data such as that pertaining to A.I. breeding, synchronizing, semen testing, feed testing weighing, and postmortems will be of little value since only a few of these procedures were performed and the data is not representative of the total population.

Emergency care was the most highly accepted of all the services provided by the program. Producers were more concerned with ensuring the availability of emergency care than for any other service in the program. Throughout the life of the program emergency care remained the most costly service. The cost varied from $7.50 in 1986 to $8.28 in 1988 but was always accounted for over half of the total cost of the whole program.

The total cost of the program increased from $12.52 in 1986 to $14.20 in 1988. This cost is not unreasonable considering the services that the program provided to producers enrolled. The cost could have been increased if producer acceptance of some of the scarcely used services had been more widely used.

TABLE 14. Cost/brood Cow

	-1986-	-1987-	-1988-
EMERGENCY CARE	7.50	7.28	8.28
POSTMORTEM	.10	.17	.24
CAST,VACC,DEHORN	2.45	2.29	2.75
PREG. Dx.	1.05	1.86	1.63
SEMEN TESTING	.20	.33	.11
HOOF TRIMMING	.24	.28	.14
SYNCHRONIZING	.19	.03	0
FEED TESTING	.24	.68	.30
WEIGHING CALVES	.27	.07	.13
A.I. BREEDING	.28	.37	.66
TOTAL	12.52	13.36	14.20

DISCUSSION

The Herd Health, Productivity and Reproductive Performance program in Northeastern Saskatchewan attempted to try to increase total productivity on beef producing operations within the Rural Municipality of Hudson Bay. The program attempted to provide total veterinary care and herd management to the producers in the municipality. The program was a success in terms of providing for total emergency veterinary care to livestock producers. The program covered the cost of a large number of emergency veterinary procedures, but did not demonstrate a significant reduction in mortality rates within the beef herds enrolled. Some of the herd management procedures such as pregnancy diagnosis and vaccinating of cattle were fairly well accepted. The program did not meet any of it's goals for increased productivity or reproductive performance.

There are a number of reasons why allot of the procedures provided by the program were poorly accepted by producers and thus were unable to produce measurable positive changes in performance. The rural municipality of Hudson Bay is in a unique position in that it is a relatively isolated area of the province. In the past veterinary service has been supplied by Veterinarians from surrounding districts. The travel costs that the producers were forced to pay to employ a veterinarian often were prohibitive. This tended to foster the attitude in producers that veterinarians were only to be used for severe emergency procedures and that the cost for such procedures would be high. Producers in this situation tended to become very self-sufficient doing almost all procedures that were required to manage a beef herd on their own. This attitude has been hard to combat and has been part of the reason why many of the services that were offered to the producers in the program were very poorly accepted.

Many of the Beef producers that live within the municipality receive a significant portion of their income form sources other than beef production. Many are mixed farmers and many receive off farm income from the lumber industry. Since most of these producers have small herds i.e. the average herd size is 39.8 brood cows per producer the income that they receive from their beef operations is small. These factors have limited the time and resources that producers have been willing to spend on the production of beef. They are also important reasons why handling facilities are sparse and why producers are so reluctant to spend time working with cattle. There is a much better return to the producer if time is spent in other segments of their total operation. All of these factors have had a negative affect on the acceptance of many of the herd management services provided by the program. Producers could not see the value of many herd management procedures since these procedures require time and facilities while they don't produce an immediate tangible gain. Producers were able to see the value of emergency veterinary service since this provided them with immediate assistance when

they required it. There seemed to be an inertia to change present that may have been caused by any or all of these factors put together.

This is the first time that a program like this has been provided to a group of producers in this province. The people that were involved in organizing and administering the program were very enthusiastic and very committed to the program. They were for the most part farmers and did not have any previous experience administering or developing any program such as this. The process of organizing and planning the program was a learning experience for all those involved with it. This resulted in a number of mistakes that can only be accounted for by inexperience. These will be listed in point form.

- A program such as this requires a lot of administrative work such as maintaining the accounts and accepting membership fees from producers etc. A technician should have been employed to see that all of these procedures were carried out and to be the liaison between the producers and the veterinary board. In this program the R.M. Secretary was asked to provide these services. This is not a satisfactory situation since in most cases the services were provided at little or no return to the secretary.

- The program provided a scale for use by the producers at no cost. The program also provided for feed sampling at a subsidized rate. Both of these services met with only limited acceptance by producers enrolled in the program. The program should have budgeted for a technician to take feed samples and weigh the calves. This could have been done on a contract basis i.e. the technician would have been paid a flat fee for each service performed and he would have been able to set up a time schedule with producers to ensure that each procedure was adequately performed.

- Data collection and analysis was provided to producers enrolled in the program at no cost. Producers were encouraged to collect their own data and provide it to the local veterinarian who provided computerized data analysis at no cost to the program. This service should also have been tendered out to a technician to do both on farm data collection and computer analysis. The volume of work that is involved in data collection and analysis is considerable, especially if large numbers of cattle were to be recorded. Purchase of a computer and appropriate software should have been budgeted for as well.

- The program did not budget for a person to write the reports that were required by E.R.D.A. This resulted in all reports being sent in late and the quality of the reports being considerably substandard. This was due in part to time constrictions being placed on the writer by other

responsibilities and the fact the their was no renumeration for composing the reports.

-In conclusion the planners of the program could have made it perform allot smoother and more professionally if they would have budgeted for a technician whose services would have been devoted entirely to the progress of the program. A technician could have provided for greater participation from producers and allowed for more meaningful data collection.

Although this program failed to produce many meaningful changes in the herd performance, it did succeed in a number of ways that were not initially planned for. This program familiarized the producers in this area with herd management procedures and veterinary procedures that they had not considered to accessible to them in the past. In this way the program has probably laid some of the ground work necessary to change the attitudes of producers in a manner which will result in positive changes in the way beef herds are managed in the future. Thus it is hoped that over the next few years producers will continue to use veterinary services extensively and that they will begin to institute changes in the way that they manage their beef herds.

This program has been an experiment in the way that Veterinary services can be provided to beef producers. In this aspect the program has been a success. The method of providing for Veterinary services whereby the producer pays for a level of service based on the number of brood cows he has in herd on a yearly basis and then pays no further fee for veterinary service is unique. the program has generated some valuable data that can be used for developing other programs of this nature. The Veterinary board has been able to manage this portion of the program with minimal difficulty and it has been well accepted by all parties involved.

The program in general has been well accepted by both the producers within the municipality and the Veterinarian who has performed most of the procedures for the program. In this way the program has also been a success. It is the intention of the Veterinary Board, the local beef producers and the local Veterinarian that the program be continued for as long as possible. Modifications will be made to try to taylor the program to the needs of our beef producers and at the same time all attempts will made to ensure the program has adequate funding to endure.